

REGIONAL RANGE TRAINING -- 1986

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Many ranchers come into my office and ask how they can make more money without buying more land. After thinking about this for awhile, I decided that if ranchers could run more livestock on their ranch, they could generate more income.

People told me about the tremendous pasture production New Zealand farmers are getting from their pasture lands, so I decided to take a sabbatical leave and study their intensive grazing systems.

To give you an idea of the pasture production in New Zealand, let me tell you about some of the farms I visited.

- * Fraser Graham had a 220-cow dairy near Hamilton on 130 acres.

They raised all the feed on this land to support the dairy cows; the feed consisted of pasture, hay, grass silage, and corn.

Fraser was grossing \$100,000 a year from the dairy--this figures out to \$770 per acre.

- * Fraser also had a sixty acre block of land that was divided into thirteen paddocks. They finish about 80 holstein bulls a year off this block of pasture for a return of \$52,200 per year (\$870 per acre).

- * Gerald Hargreaves near Timaru on the South Island had a 1180 acre farm. He had 100 paddocks on the farm divided into 10 acres pastures. Gerald ran 4500 ewes and 200 Angus cows. His farm was in a 20-30 inch annual rainfall area.

- * Bill Lindsay near Invercargil had 300 acres. He ran 1200 ewes and raised 40 acres of wheat.

New Zealand does have a more uniform rainfall spread throughout the year. The south part of the South Island usually gets twice as much rain in the summer as they do in the winter; the North Island is just the opposite. A large part of the North Island has from fifty to sixty inches of rainfall per year. There are places in the South Island that only get 12-16 inches a year, but in Fjordland they get about 300 inches per year. The temperatures in the North Island are similar to what we have in Humboldt County.

The main forage plants in New Zealand are ryegrass and white clover. They also have other grass and clover species like orchardgrass (cocksfoot), Fescue, red clover, and subclover. Most farmers use fertilizer; single super phosphate is the most popular fertilizer. In the steep hill country the seed and fertilizer is flown on.

As we look at using New Zealand grazing technology in the United States, there are several things to keep in mind. The basic forage plants they use are ryegrass and white clover, which are both perennial. They do have some annual grasses and legumes, but they aren't a major part of the pasture component.

A professor at Massey University made a good point about discussing differences in pastures, even on the same farm. He said when dealing with a whole farm we are dealing with a collection of individual pastures all with different dynamics, they will differ in:

- * botanical composition
- * tiller density
- * sward structure
- * time of grazing
- * and intensity of grazing.

Other differences include fertility, drainage, and soil type. The more uniform the individual pastures the easier the management decisions.

It is important to remember that Controlled Grazing Systems (CGS) is not a recipe for pasture management. Recipes have difficulty in coping with these sorts of variations, and there will be regional differences in the fine details of CGS. When I talk about Controlled Grazing Systems (CGS) I'm referring to an integrated ranch or farm management system designed to increase both per head and per acre production and through them financial returns.

A CGS is not just rotational grazing, although rotational grazing is certainly a very important part. It's knowing the principals of pasture and animal production and putting them together to make the best management decisions to insure that production targets are met.

Controlled grazing is understanding the main principles and putting them into practice to minimize the risks of poor seasons and maximize the production gains in favorable ones. The main principles are:

- * setting livestock production targets
- * following pasture production principles
- * controlling and manipulating feed intake
- * subdividing for increased pasture utilization

Setting production targets is deciding how much you want the livestock to gain while they are on pasture. For example, a stocker operator may decide he wants his steers to gain three pounds per day for ninety days. A rancher raising replacement heifers may set a target of one pound gain per head per day from weaning until breeding. Once a production target is set, then the pasture management scheduled is developed.

The rate of pasture regrowth depends on many factors. Management can do only a limited amount about climatic constraints like those of soil moisture and soil temperature but can achieve a great deal through manipulating the frequency and severity of grazing.

When feed intake needs to be controlled, pastures often need to be grazed below the optimum levels.

Subdividing and rotating pastures reduces the grazing time on any area of the ranch. Rotating the pastures allow the grass to regrow before the livestock come back.

FEED BUDGETS

Grazing management is aimed at getting more grass to grow, using it as effectively as possible, and with enough flexibility to meet changes in pasture growth rates or animal requirements. Rotational grazing meets these requirements most effectively. Feed management is aimed at adequately feeding animals and getting a good level of performance from them.

Bringing these two aspects of farm management together is the role of feed budgeting and this process has been considerably simplified by the concept of using Residual Dry Matter (RDM). This is simply the level to which the pasture is grazed down before moving stock.

A high RDM will give stock more choice in grazing pattern and as a result performance will be higher. Aiming for a low RDM will force stock to graze closely and clean up everything, and will only just maintain their live weight.

It is easier to recognize RDM levels than estimating pre-grazing levels of DM (dry matter) on the paddock, and this also eliminates the need to do a lot of arithmetic to decide how long a mob should stay in a paddock.

As you get used to the technique you are able to start doing more planning and so anticipate some feed shortages or surpluses. Action can be taken to 1) boost feed supplies; 2) control feed intake, 3) alter grazing management to maintain pasture quality, or any combination of these.

The overall aim of using feed budgeting is to put some planning into the "feed supply--feed demand" position on the farm and get the best out of both pastures and animals. RDM does this more simply than methods such as pasture allowance or percentage utilization. It is the basic level of feed management -- in that you can build a feed budget and know what level of animal nutrition and hence performance that you can expect to achieve. Feed budgeting recognizes not only the need to feed animals for better performance but allows some compromise with pasture management in order to build up feed for critical feed demand period as well.